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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,596	02/23/2004	Vishal Sinha	FOUND-0096	3221
49680 7590 03/26/2007 FOUNDRY-THELEN REID BROWN RAYSMAN & STEINER LLP P.O. BOX 640640 SAN JOSE, CA 95164-0640			EXAMINER KIM, WESLEY LEO	
			ART UNIT	PAPER NUMBER
			2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/785,596	Applicant(s) SINHA, VISHAL	
	Examiner Wesley L. Kim	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Office Action is response to Amendments filed 1/19/07.

- Claims 1, 12, 16, 21, 23, 34, 38, and 40 are Currently Amended.
- Claims 1-40 are pending in the current Office Action.

Response to Arguments

1. Applicant's arguments with respect to claims 1, 12, 16, 21, 23, 34, 38, and 40 have been considered but are moot in view of the new ground(s) of rejection.

- Applicant argues that Lee only teaches the request is relayed by the foreign agent to an already-determined home agent.

The examiner would like to note the new grounds of rejection addresses this argument with the Rue reference. Rue clearly teaches that it is determined if the agent is a home agent. See rejection below.

2. Applicant's arguments filed 1/19/07 regarding Claims 9-11, 20, 31-33, 37, and 39 have been fully considered but they are not persuasive.

- Applicant argues that Rue and Eglin do not teach a first switch that, in order to address the case of two VLANs serviced by the same switch, sends a roam request to itself as well as to peer switches, thus neither Eglin nor Rue show a switch that sends a roam request to itself as well as to peer switches.

The examiner respectfully disagrees. Rue teaches sending a roam request to all peer switches (Par.46;1-6) including itself (Par.45;4-7) and Eglin further teaches that roaming is possible between two VLANs serviced by the

same switch (Fig.3). From the combination, it is obvious, that a roam request could be send to itself, which would then determine whether or not the move request is associated with the client roaming between two virtual local area networks serviced by the same switch in said sending. See rejection below.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: information regarding how the client information is stored and under what conditions the stored information is removed. "Storing information regarding the client" is only performed when the agent is the home/foreign agent or when the home agent was previously a home/foreign agent (From specification 10/785596, par. 35). The claims make it

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sound as if information regarding the client is stored at every agent, however this is untrue.

Further, stored information is only going to be removed when the agent was or is the home/foreign agent. If the agent was never the home/foreign agent then there would be no client information stored, therefore there would be no client information stored at the agent to be removed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-2, 7-8, 16, 23-24, 29-30, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rue (US 2003/0185172 A1) in view of Lee et al (US 6535493 B1).

Regarding Claims 1, 16, 23, and 38, Rue teaches storing information regarding the client (Par.47;1-10, if the switch was a home agent then the information was stored, however, switches which weren't home agents do not store any client information (Par.45; 4-Par.46;6)); receiving the roam request after said storing (Par.47;1-10); determining, in response to said receiving, if the first switch is a home agent for the client (Par.45; 4-Par.46;6, determines that the switch is not a home agent for the client and Par.47;1-10, is determined that the switch is a home agent for the client); and teaches establishing a connection for the client from the

first switch to the second switch (Par.47;1-10), where it is known to use a tunneling structure to connect the two switches (Par.35; 10-13), and sending a roam reply to the second switch (Par.47;4-10, the find response message is a reply), however Rue **is silent on** removing the stored information regarding the client from the first switch if the first switch is determined not to be a home agent for the client.

Lee teaches tunneling (Col.6;35-40) and Lee further teaches that it is known that if an agent was a home agent but is no longer a home agent then the information regarding the client is removed (Col.3;17-22).

To one of ordinary skill in the art, it would have been obvious to modify Rue with Lee at the time of the invention, such that the stored information regarding the client from the first switch is removed if the first switch is determined not to be a home agent for the client, to provide a method of freeing up memory from the associated switch, which the client is no longer associated with, consistent with high level concepts for memory management.

Regarding Claims 2 and 24, Lee teaches all the limitations as recited in claim 1 and 23, respectively, and Lee further teaches roam reply contains network configuration information regarding the client (Col.9;46-49, the reply contains information regarding whether or not the client registration request has been accepted or denied, which is network configuration information).

Regarding Claims 7 and 29, Lee teaches all the limitations as recited in claim 1 and 23, respectfully, and Lee further teaches that a roam reply indicates failure if something went wrong during the process, otherwise it indicates success

(Col.8;13-15, roam request granted indicates success, roam request denial indicates failure).

Regarding Claims 8 and 30, Lee teaches all the limitations as recited in claim 1 and 23, respectfully, however Lee **is silent on** the roam request is an Inter Switch Roaming Protocol (ISRP) roam request.

Lee teaches a registration request (i.e. roaming request) is a UDP protocol registration request (Col.10;35-45). One of ordinary skill in the art would find it obvious to use an alternative protocol well known in the art, an inter-switch link protocol (i.e. ISRP), for routing data between VLAN switches.

2. Claims 9-11, 20, 31-33, 37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rue (U.S. Pub. 2003/0185172 A1) in view of Eglin (U.S. Pub 2003/0210671 A1).

Regarding Claims 9, 20, 31, and 39, Rue teaches receiving a move request (Par.44;9-12, handover request message) from an access point (Par.44, fourth access point) associated with the switch (Par.45; second mobile access server); and sending a roam request to all peer switches in the same mobility domain as the switch (Par.46;1-6). To the examiner a home mobile access server find request message (MAS) is a roam request since both are trying to obtain information on the mobile node from the home switch so that data may appropriately be routed to the roaming mobile node, however Rue **is silent on** determining if the move request is associated with client roaming between two virtual local area networks (VLANs) serviced by the same switch by including said first switch in said sending.

Eglin further teaches a mobile device may roam from one VLAN to another VLAN serviced by the same switch (Fig.3) and Rue further teaches that a switch itself is checked to determine if information on the mobile node is stored in the database (Par.45;4-7, i.e. a roam request is sent to itself), therefore it is obvious that it would be determined whether or not the move request is associated with the client roaming between two virtual local area networks serviced by the same switch in said sending.

To one of ordinary skill in the art, it would have been obvious to modify Rue, such that it is determined if the move request is associated with client roaming between two virtual local area networks (VLANs) serviced by the same switch by including said first switch in said sending, so that data may appropriately be routed to the roaming mobile node.

Regarding Claims 10, 11, 32, 33, and 37, Rue and Eglin teach all the limitations as recited in claim 9, 31, and 33, and although the combination **is silent on** the move request being a Switch Access Point Protocol (SAPP) move request or ISRP roam request.

Rue teaches the mobile access server (i.e. switch) controls access points and supports signal protocol (Par.27;10-11). To one of ordinary skill in the art, it is obvious that signal protocol used for the roam request may be of type Switch Access Point Protocol (SAPP) or ISRP.

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3. Claims 3-6, 17-19, 25-28, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rue (US 2003/0185172 A1) and Lee et al (US 6535493 B1) in further view of Eglin (U.S. Pub.2003/0210671 A1).

Regarding Claims 3, 17, and 25, Rue and Lee teach all the limitations as recited in claim 1, 16, and 23, respectively, and Lee teaches discovering if the first switch is the same as the second switch (Col.8;30-32); performing said determining, removing, and tunneling only if the first switch is not the same as the second switch (See Claim 1 rejection); setting the first switch as the foreign agent if the first switch is the same as the second switch (Col.8;23-25, the foreign agent is dynamically assigned, to a skilled artisan, it is obvious that the first switch will be set as a foreign agent even if it is the same as the second switch); however the combination **is silent** on and updating a virtual network tag corresponding to the client in a data structure controlled by the first switch if the first switch is the same as the second switch.

Eglin teaches the access port/VLAN may change when the mobile station roams between AP reception areas, e.g. from first access point to another access point and if the access port/VLAN is unchanged (i.e. meaning the first and the second switch are the same), then a data packet is updated with the appropriate VLAN tag and switched to the appropriate identified core port (Par.28;16-22).

To one of ordinary skill in the art, it would have been obvious to modify Rue and Lee with Eglin, such that a virtual network tag corresponding to the client in a data structure controlled by the first switch is updated if the first switch is the same

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as the second switch, to provide a method of maintaining updated connectivity of the mobile devices by updating the VLAN tag and associating it to the correct VLAN.

Regarding Claims 4 and 26, the combination as discussed above teaches all the limitations as recited in claim 3 and 25, respectively, and Eglin further teaches updating includes updating a virtual local area network (VLAN) tag corresponding to the client with a new VLAN tag corresponding to a new VLAN to which the client has roamed (Par.28;22-26, VLAN tag is changed).

Regarding Claims 5, 18, and 27, the combination as discussed above teaches all the limitations as recited in claim 3, 17, and 25, respectively, and Lee further teaches ascertaining if the roaming being attempted is layer 2 or layer 3 roaming (Col.8;30-35); executing said performing and setting only if the roaming being attempted is layer 3 roaming (See Claim 3 rejection, performing and setting only performed when mobile device roams to an access point in a foreign network, which is layer 3 roaming), and removing information regarding the client from a data structure controlled by the first switch (See rejection of Claim 1).

Regarding Claims 6, 19, and 28, the combination as discussed above teaches all the limitations as recited in claim 5, 18, and 27, respectively, and Lee teaches checking if the client is known to the first switch (See Claim 1 rejection); performing said discovering, executing, and removing only if the client is known to the first switch (See Claim 5 rejection, discovering, executing, and removing only done if first switch is home agent to the client, i.e. client is known to the first switch).

Regarding Claim 36, Rue and Lee teach all the limitations as recited in claim 33, however the combination **is silent on** the move reply including a new VLAN identification.

Eglin teaches updating includes updating a virtual local area network (VLAN) tag corresponding to the client with a new VLAN tag corresponding to a new VLAN to which the client has roamed (Par.28;22-26, VLAN tag is changed).

To one of ordinary skill in the art, it would have been obvious to modify Rue and Lee, such that a virtual network tag corresponding to the client in a data structure controlled by the first switch is updated if the first switch is the same as the second switch, to provide a method of maintaining updated connectivity of the mobile devices by updating the VLAN tag and associating it to the correct VLAN.

4. Claims 12, 15, 21, 34, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. Patent 6535493 B1) in view of Rue (U.S. Pub. 2003/0185172 A1) and Strachan et al (U.S. Pub 2004/0105440 A1).

Regarding Claims 12, 21, 34, and 40, Lee teaches handling a roam reply at a switch (Col.8;13-15, foreign agent handles roam reply), receiving the roam reply (Col.8;13-15, foreign agent handles roam reply, reply is received); determining if the roam reply indicates that the handling of a roam request was successful (Col.9;57-61, sends a predetermined code to allow determination of success or failure of roam request); sending a reply to a corresponding access point indicating failure if the handling of said roam request was not successful (Col.9;57-61, sends a code specifying reason of denial); setting the switch as a Foreign Agent for the client if the

handling of said roam request was successful (Col.8;32-34, when mobile unit moves to a new subnet, (i.e. under the control of a new router or switch) other than its home (i.e. home router or switch), this new subnet (i.e. the new switch) becomes its foreign subnet, i.e. foreign agent); and sending a move reply to said corresponding access point if the handling of said roam request was successful (Col.8;13-15), however Lee is silent on receiving a roam reply from a switch determined, in response to the roam request, to be a home agent, the roam reply having information regarding a client that is roaming to the switch, the information not previously available at the switch; and switching a router designated by the client with a default router for the switch if the handling of said roam request was successful.

Rue teaches that it is well known in the art to receiving a roam reply from a switch determined, in response to the roam request to be a home agent (Par.45; 4-Par.46;6, determines that the switch is not a home agent for the client and Par.47;1-10, is determined that the switch is a home agent for the client), the roam reply having information regarding a client that is roaming to the switch, (Par.52;7-12 and Par.53;5-11, internet protocol address of the mobile node (i.e. client) is information regarding the client), the information not previously available at the switch (Par.47, the internet protocol address of the first mobile access server was not known, hence a find request message);

Strachan teaches switching a router designated by the client with a default router for the switch if the handling of said roam request was successful (Par.28 and

Par.42, the edge switch is the designated router and the core router is the default router).

To one of ordinary skill in the art it would have been obvious to modify Lee with Rue and Strachan, since they are from the same search areas, viz. supporting mobility between subnetworks, such that the a roam reply is received from a switch determined, in response to the roam request, to be a home agent; roam reply has information regarding a client that is roaming to the switch, the information not previously available at the switch; and switching a router designated by the client with a default router for the switch if the handling of said roam request was successful, to provide a method of enabling seamless roaming of mobile devices among wireless networks.

Regarding Claim 15, the combination as discussed above teaches all the limitations as recited in claim 12, however the combination **is silent on** move reply being a SAPP move reply.

Rue teaches the mobile access server (i.e. switch) controls access points and supports signal protocol (Par.27;10-11). To one of ordinary skill in the art, it is obvious that signal protocol used for the roam request may be of type Switch Access Point Protocol (SAPP).

5. Claims 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. Patent 6535493 B1), Rue (U.S. Pub. 2003/0185172 A1), and Strachan et al (U.S. Pub 2004/0105440 A1) in further view of Edney et al (U.S. Pub. 2004/0255033).

Regarding Claims 13 and 22, Lee, Rue, and Strachan teach all the limitations as recited in claim 12 and 21, respectively, however the combination is **silent on** trapping all address resolution protocol (ARP) packets from the client; and sending an ARP reply to the client with a default router address for the switch.

Lee teaches trapping all address resolution protocol packets from the client (Col.11;30-32) and means for sending an ARP reply to the client with a default router address for the switch (Col.11;20-22).

Edney teaches a client device sending a ARP Request an access point and sending a ARP reply back to the client device (Par.29;6-10).

To one of ordinary skill in the art it would have been obvious to modify, Lee, Rue, and Strachan with Edney, since they are from similar search areas, transmitting data packets over wireless networks, such that there exists a means for trapping all address resolution protocol (ARP) packets from the client; and means for sending an ARP reply to the client with a default router address for the switch, to provide a method of securely transmitting data to appropriate destinations.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (U.S. Patent 6535493 B1), Rue (U.S. Pub. 2003/0185172 A1), and Strachan et al (U.S. Pub 2004/0105440 A1) in further view of Eglin (U.S. Pub. 2003/0210671 A1).

Regarding Claim 14, Lee, Rue, and Strachan teach all the limitations as recited in claim 12, however the combination is **silent on** the move reply includes a new VLAN identification.

Eglin further teaches updating includes updating a virtual local area network (VLAN) tag corresponding to the client with a new VLAN tag corresponding to a new VLAN to which the client has roamed (Par.28;22-26, VLAN tag is changed).

To one of ordinary skill in the art, it would have been obvious to modify Lee, Rue, and Strachan, such that a virtual network tag corresponding to the client is changed, to provide a method of maintaining updated connectivity of the mobile devices by changing the VLAN tag and associating it to the correct VLAN.

7. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rue (U.S. Pub. 2003/0185172 A1) in view of Lee et al (U.S. Patent 6535493 B1) and Edney et al (U.S. Pub. 2004/0255033 A1).

Regarding Claim 35, Rue teaches all the limitations as recited in claim 33, however Rue **is silent on** means for trapping all address resolution protocol (ARP) packets from the client; and means for sending an ARP reply to the client with a default router address for the switch.

Lee teaches trapping all address resolution protocol packets from the client (Col.11;30-32) and means for sending an ARP reply to the client with a default router address for the switch (Col.11;20-22).

Edney teaches a client device sending a ARP Request an access point and sending a ARP reply back to the client device (Par.29;6-10).

To one of ordinary skill in the art it would have been obvious to modify, Rue with Lee and Edney, since they are from similar search areas, transmitting data packets over wireless local area networks, such that there exists a means for

trapping all address resolution protocol (ARP) packets from the client; and means for sending an ARP reply to the client with a default router address for the switch, to provide a method of securely transmitting data to appropriate destinations.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

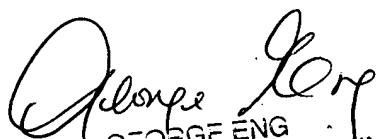
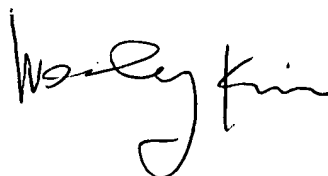
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley L. Kim whose telephone number is 571-272-7867. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WLK



GEORGE ENG
SUPERVISORY PATENT EXAMINER